Leavenworth National Fish Hatchery Complex

Background and early history

- Grand Coulee Dam approved under National Industrial Recovery Act (NIRA) 1933
- Construction began in 1933
- Grand Coulee Dam Project, 49 Stat. 1028, authorized August 30, 1935 as part of the Rivers and Harbors Act

- Grand Coulee Dam would eliminate upper Columbia River migratory fish runs
- Develop plans to maintain fish runs (1935)
- Mitigation to compensate for fish losses caused by the construction of Grand Coulee Dam
- April 3, 1937 agreement between Reclamation and the Washington State Department of Fisheries
  - To provide information needed to determine the best means of protecting and continuing the propagation of migratory fish

- “Report of the Preliminary Investigations Into the Possible Methods of Preserving the Columbia River Salmon and Steelhead at the Grand Coulee Dam”
  - January 1938, Washington State Departments of Fisheries and Game and the U.S. Bureau of Fisheries

Fishery Objectives

- 1. “… to bring, by stream rehabilitation and supplemental planting, the fish populations in the 677 miles of tributary streams between Grand Coulee Dam and Rock Island Dam, up to figures commensurate with earlier undisturbed conditions and with natural food supply in the streams.”

- 2. “… to produce, in addition, by the combination of artificial spawning, feeding, rearing and planting in these streams, a supplemental downstream migration equivalent to that normally produced by the 1,140 miles of streams and tributaries above the Grand Coulee Dam.”

- “Whereas, for the purpose of protecting the fish industry of the Columbia River from injury by reason of the construction of Grand Coulee Dam, the United States desires to provide, during a limited period of years, for trapping fish at the fishways in the Rock Island Dam in the Columbia River east of Wenatchee, Washington, and for the transportation of the trapped fish to the adjacent highways and thence to a fish hatchery and migratory fish control station on Icicle River …”
  - Columbia Basin Project contract, 6 November 1939

- The plan
  - Capture salmon and steelhead at Rock Island Dam and redistribute them to four major tributaries between Rock Island Dam and Grand Coulee Dam
  - Hold fish and take eggs at Icicle Creek site
  - Establish rearing stations on Entiat, Methow, Okanogan rivers as well as Icicle Creek

Report of the Board of Consultants on the Fish Problems of the Upper Columbia River.

R.D. Calkins, W.P. Durand, W.H. Rich, 1939

Reviewed 1938 report, concurred with recommendations for a hatchery system

Authorization for fish preservation/mitigation

- Grand Coulee Dam Project, 49 Stat. 1028, August 30, 1935
- Columbia Basin Project Act, 57 Stat. 14, March 10, 1943
- Fish and Wildlife Coordination Act, 60 Stat. 1080, August 14, 1946

Hatchery facilities

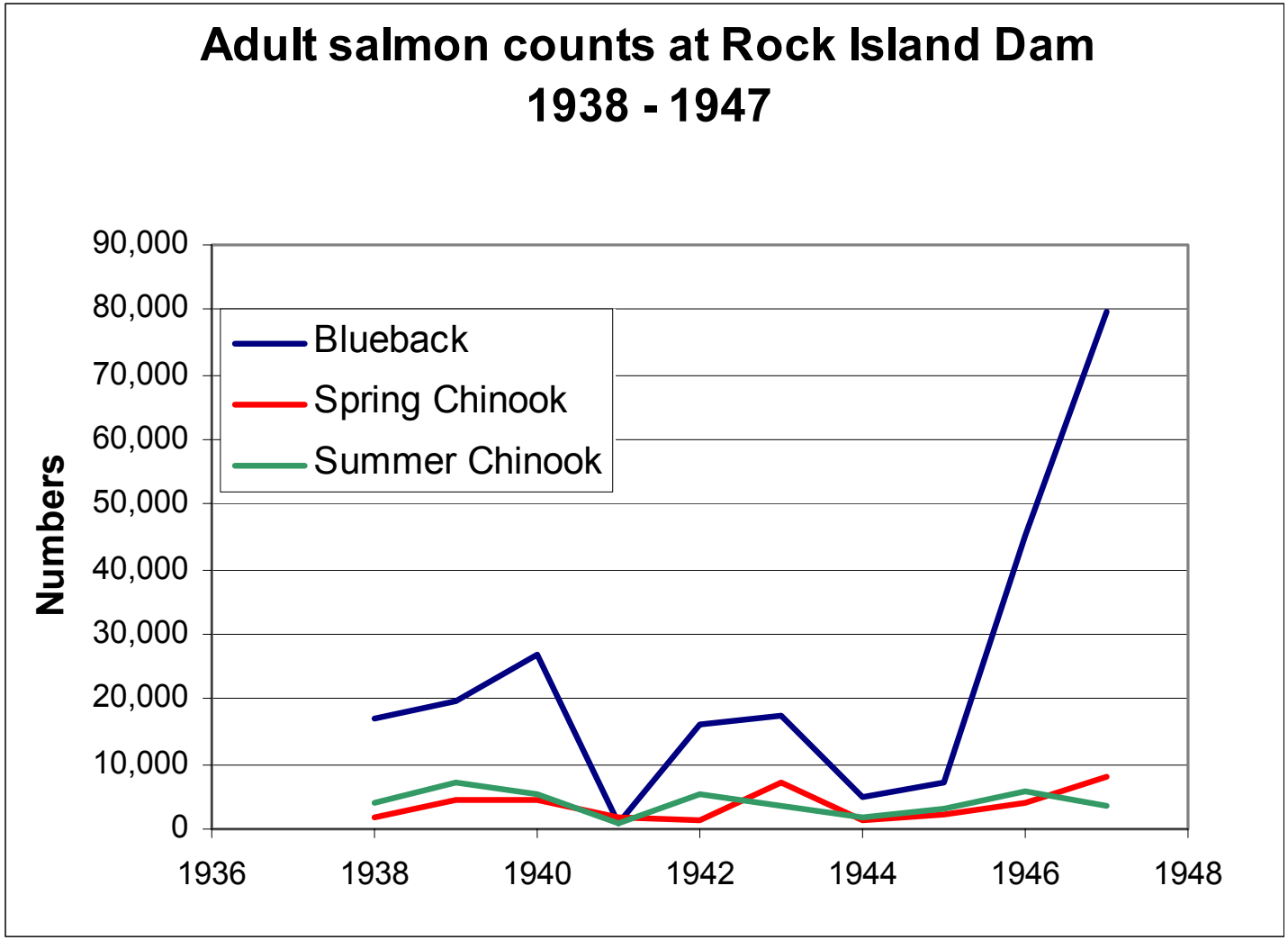
- Designed, funded and built by USBR
  - Leavenworth, on Icicle Creek
  - Entiat, on Entiat River
  - Winthrop, on Methow River
  - Facility designed for Okanogan River but not constructed
  - Game fish hatchery proposed at Ford, WA to stock lake with rainbow trout and kokanee

- Hatchery size based on maximum number of eggs produced by the average number of adults at RIS from 1933 to 1937.
- Average 28,000 adult fish
- Estimated number of eggs
  - 21,500,000 blueback (sockeye),
  - 14,000,000 steelhead, and
  - 41,000,000 Chinook salmon

Brennan, 1938

- Fish allowed to pass GCD site in 1938
- Fish trapped at Rock Island Dam
  - May 1939 (through fall of 1943)
  - Taken to Wenatchee and Entiat rivers and Wenatchee and Osoyoos lakes to spawn naturally

- Leavenworth completed 1940
- Entiat completed 1941
- Winthrop completed 1941


Adult salmon counts at Rock Island Dam
1938 - 1947
Numbers
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1936
1938
1940
1942
1944
1946
1948
Blueback
Spring Chinook
Summer Chinook

- Ownership, operation and maintenance transferred to Fish and Wildlife Service 4 March 1949

- In 1991 the Department of Interior Inspector General directed the FWS to develop an agreement with Reclamation to seek recovery of operating costs for the Leavenworth Complex, “as the required mitigation of adverse impacts of the Project were not completed as of March 4, 1949, but continue indefinitely.”

  Report No. 91-1-286, January 14, 1991

Current Target Release Numbers

- Leavenworth NFH
  - 1.625 million yearling spring Chinook salmon, Carson stock
- Entiat NFH
  - 400,000 yearling spring Chinook salmon, Carson stock
- Winthrop NFH
  - 600,000 yearling spring Chinook salmon, Methow Composite
  - 100,000 steelhead smolt, Wells

Budget constraints / considerations

- Reclamation budgets on 3-year cycle
- Estimated costs for capital improvements for the Complex through 2012 are: $30M
- Budget constraints limit Reclamation to between $2M and $5M a year in addressing capital improvement needs
- Annual Operation & Maintenance: $4.2 a year, partly funded by BPA

USBR – FWS interaction in funding hatchery operations

- Established Joint Reclamation/FWS Team to address key LNFH Complex issues, and:
  - Identify funding priorities
  - Collaborate in the development of project designs, consultations, contracting, implementation, etc.
  - Information developed through the Joint Team will be provided to management for consideration regarding LNFH Complex operations potential affects on ESA commitments under the FCRPS

Conclusions

- Mitigation obligation continues
- Reclamation and BPA fund operations
- Production level for mitigation based on mid-1930s average annual return of about 28,000 adult salmonids to Rock Island Dam to help maintain downstream fishery

Questions / Concerns

- Role of hatchery in conservation
- Production in context of U.S. v. Oregon